

Topic: Equivalent fractions**Question:** Which fraction is equivalent to $\frac{3}{7}$?**Answer choices:**

A $\frac{7}{14}$

B $\frac{24}{56}$

C $\frac{10}{21}$

D $\frac{7}{3}$



Solution: B

Of these answer choices, the fraction in answer choice B is the only fraction that's equivalent to $3/7$. To show this, we'll break the numerator and denominator of $24/56$ into their prime factors.

$$\frac{24}{56}$$

$$\frac{3 \cdot 2 \cdot 2 \cdot 2}{7 \cdot 2 \cdot 2 \cdot 2}$$

The prime factor 2 occurs three times in both the numerator and the denominator, so we can cancel all of those factors, and we'll be left with

$$\frac{3}{7}$$

There's another way to show that $24/56$ is equivalent to $3/7$: We'd have to multiply the numerator of $3/7$, 3, by 8 in order to get the numerator of $24/56$, 24. Therefore, we'd have to multiply the denominator of $3/7$, 7 by the same number (8) to get the denominator of the fraction that's equivalent to $3/7$ and has a numerator of 24:

$$\frac{3}{7} = \frac{3 \cdot 8}{7 \cdot 8} = \frac{24}{56}$$



Topic: Equivalent fractions**Question:** Which fractions are equivalent?**Answer choices:**

A $\frac{5}{7}$ and $\frac{13}{18}$

B $\frac{6}{8}$ and $\frac{30}{40}$

C $\frac{12}{16}$ and $\frac{3}{5}$

D $\frac{6}{11}$ and $\frac{12}{20}$



Solution: B

If you reduce equivalent fractions to lowest terms, you'll get the same result. For example, $6/8$ can be reduced as

$$\frac{6}{8}$$

$$\frac{6 \div 2}{8 \div 2}$$

$$\frac{3}{4}$$

And $30/40$ can be reduced as

$$\frac{30}{40}$$

$$\frac{30 \div 10}{40 \div 10}$$

$$\frac{3}{4}$$

Because we get the same result ($3/4$) when we reduce $6/8$ and $30/40$ to lowest terms, we know that they're equivalent.



Topic: Equivalent fractions**Question:** Choose an equivalent fraction.

$$\frac{3}{4}$$

Answer choices:

A $\frac{12}{16}$

B $\frac{75}{80}$

C $\frac{6}{10}$

D $\frac{30}{36}$



Solution: A

Equivalent fractions, when you reduce them to their lowest terms, will always be equal to one another. For example, 12/16 can be reduced as

$$\frac{12}{16}$$

$$\frac{12 \div 4}{16 \div 4}$$

$$\frac{3}{4}$$

Because we get 3/4 when we reduce the fraction, we know that 12/16 is equivalent to 3/4.

